

Section 1.7

Part 1

$$xy^2 \cdot \sqrt[3]{y^2} = xy^2 \sqrt[3]{y}$$

$$\frac{\sqrt[3]{xy^2} \cdot \sqrt[3]{x^2y^4}}{\sqrt[3]{y}} = \frac{\sqrt[3]{x^3y^6}}{\sqrt[3]{y}} = \frac{\cancel{x}y^2}{\sqrt[3]{y}} \cdot \frac{\sqrt[3]{y^2}}{\sqrt[3]{y^2}} = \frac{xy^2 \sqrt[3]{y^2}}{y}$$

$$\# \frac{\sqrt[3]{x^3y^6}}{\sqrt[3]{y}} = \sqrt[3]{x^3y^5} = xy^2 \sqrt[3]{y}$$

$$\frac{\sqrt[4]{16x^7y^2} \cdot \sqrt[4]{2x^2y^4}}{\sqrt[4]{4xy^3}} = \frac{\sqrt[4]{32x^9y^6}}{\sqrt[4]{xy^3}}$$

$$\sqrt[4]{8x^8y^3} = x^2 \sqrt[4]{8y^3}$$

$$-\sqrt[8]{256x^{24}y^{12}}$$

$$-\sqrt[8]{2^8 x^{24} y^{12}}$$

$$-2x^3y^3\sqrt[8]{y^4}$$

$$\sqrt{x^2 + y^2}$$

$$\sqrt[5]{\sqrt[3]{64}}$$

$$\sqrt[5]{4}$$

$$\sqrt[3]{\sqrt{5}}$$

$$\sqrt[7]{(5)^{1/2}} = (5^{1/2})^{1/4} = 5^{1/4}$$